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ONTARIO WATER
RESOURCES COMMISSION

THE

ONTARIO WATER RESOURCES

COMMISSION

WATER POLLUTION SURVEY

of the

TOWN OF TIMMINS

DISTRICT OF COCHRANE

1966

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R E P O R T

on a

WATER POLLUTION SURVEY

of the

TOWN OF TIMMINS

District of Cochrane

April 1966

The Division of Sanitary Engineering

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R E P O R T

ONTARIO WATER RESOURCES COMMISSION

INTRODUCTION

A water pollution survey was conducted in the Town of Timmins during the summer of 1965. The purpose of the survey was to locate and record all significant sources of water pollution within the town. Such surveys are performed routinely, and upon request, by the Ontario Water Resources Commission as a basis for evaluating all existing and potential sources of pollution. Where sources of pollution are found, corrective action is requested by the Commission.

The information received from the town officials and from the Porcupine Health Unit is gratefully acknowledged.

I GENERAL INFORMATION

The Town of Timmins borders the Township of Mountjoy and the Township of Tisdale in the District of Cochrane. The town had a 1964 assessed population of 28,950 (1965 Municipal Directory). Economically, the populace relies on the mining developments within the area.

The soils in the northern half of town consist of a clayey overburden with some muck. In the southern half of town, sandy soil is predominant with some muck and clay.

Drainage for the area is provided by the Mattagami River and its tributaries, the Mountjoy River and the Town Creek.

The Town Creek flows through the Town of Timmins in a southwesterly direction.

II WATER USES

1. Municipal Water System

Water for the Town of Timmins is supplied by the Hollinger Consolidated Gold Mines Limited Water Works. Water from the Mattagami River flows by gravity through coarse screens to the intake pumpwell where the water is chlorinated. The water is then pumped to the distribution system owned by the Town of Timmins. No storage has been provided and pumps are operated continuously to maintain positive pressure on the system. The average daily water consumption for the town is approximately 2,570,000 gallons.

Bacteriological examinations of the samples, collected from the water distribution system, indicated that the bacteriological quality of the water has been generally satisfactory.

2. Industrial Water Supplies

Hollinger Consolidated Gold Mines Limited - Water for the Hollinger Mines is provided by the company's water works. Weekly water consumption is estimated at 5,000,000 gallons.

Timmins Packers Limited - Water from the Town of Timmins municipal distribution system is utilized at this meat plant. An average of 287,333 gpd are required for all operations (1965 OWRC Industrial Wastes Survey).

Doran's Northern Ontario Breweries Limited - Water for operations at this industry is obtained from the town supply. It is estimated that 65,000 gpd were utilized for 250 days of operation in 1964 (1965 OWRC Industrial Wastes Survey).

3. Recreational

The Mattagami River and Gillies Lake are used for such recreational purposes as swimming, boating, and fishing.

III WATER POLLUTION

1. Sanitary Waste Disposal

(a) Existing Conditions

Timmins (OWRC) Water Pollution Control Plant - The Town of Timmins is serviced by a system of separate sewers and a primary sewage treatment plant. The sewage treatment plant is operated by the OWRC for the Town of Timmins.

The plant commenced operation in the spring of 1964. Treatment consists of screening, barminution, aerated grit removal, primary settling, chlorination, and heated sludge digestion. The final effluent is discharged to the Mattagami River.

The following are the results of the sanitary chemical analyses of samples submitted by the plant staff during the years of 1964 and 1965:

TIMMINS (OWRC) WATER POLLUTION CONTROL PLANT

SUMMARY AND ANALYSES

1964

Month	Raw Sewage BOD (ppm)	Raw Sewage Susp.Solids (ppm)	Final Effluent BOD (ppm)	Final Effluent Susp.Solids (ppm)	% Removal BOD	% Removal Susp.Solids
July	115	155	50	58	56.5	62.5
August	86	91	91	87	-	4.5
September	115	100	80	45	30.5	55.0
October	79	75	56	73	29.0	2.5
November	84	88	52	61	38.2	30.7
December	122	124	55	71	55.0	42.5
Averages	100.2	105.5	64	65.8	36.2	37.6

1965

Month	Raw Sewage BOD (ppm)	Raw Sewage Susp.Solids (ppm)	Final Effluent BOD (ppm)	Final Effluent Susp.Solids (ppm)	% Removal BOD	% Removal Susp.Solids
January	90	94	59	88	34.5	11.5
February	82	87	48	64	41.5	26.5
March	350	415	100	85	71.5	79.5
April	57	98	43	59	24.5	39.5
May	98	146	48	62	51.0	57.5
June	120	166	64	80	46.6	51.8
July	-	-	-	-	-	-
August	59	48	67	65	-	-
September	106	158	63	61	40.6	61.5
October	440	662	48	41	89	93.7
November	190	495	49	70	74.1	85.9
December	145	150	72	87	50.5	42.0
Averages	157.9	229	60.1	69.3	62	69.8

The efficiency was satisfactory for a plant of this type.

The plant is designed to treat an average of 3.0 million gallons of sewage per day with a maximum allowable hydraulic flow rate of 9.0 mgd. The following is a summary of the maximum, minimum, and average daily sewage flows to the plant for the period of

record during the years of 1964 and 1965.

DAILY FLOW

MILLION GALLONS PER DAY

1964

Month	Maximum	Minimum	Average
July	6.025	2.676	-
August	3.824	2.246	2.824
September	4.975	2.187	2.966
October	4.610	2.300	3.363
November	4.256	2.081	3.229
December	-	-	-

1965

Month	Maximum	Minimum	Average
January	-	-	-
February	1.556	1.361	1.685
March	4.031	1.017	2.609
April	3.488	1.399	2.309
May	5.979	2.101	3.650
June	4.212	2.465	3.247
July	4.315	2.492	2.975
August	4.143	2.283	2.996
September	4.682	2.132	2.924
October	3.690	2.512	3.152
November	4.754	2.003	2.677
December	2.432	1.371	2.523

Town Creek - Because of many complaints concerning foul sewage odours from residents who live in the area of the Town Creek, surveys have been conducted of the creek by the Porcupine Health Unit. Results of these surveys and of the survey conducted by the OWRC revealed that considerable fecal matter is present in the creek. This is probably caused by illegal connections of house sewers to the storm sewer system which outfalls to the Town Creek.

There are also residences within the area of the Town Creek not serviced by the municipal sanitary sewer system. Inadequate septic tank systems and private privies are employed with septic tank effluent discharging to the Town Creek.

Melrose Heights Subdivision - The Melrose Heights Subdivision is located in the northern part of town. This subdivision is serviced by a wooden septic tank approximately 16 ft. by 18 ft. by 3 ft. liquid depth. The liquid capacity of the tank is 2,400 gallons. The tank has no constructed bottom to it and the wooden top is completely exposed with no access manholes provided. The inlet and outlet pipes are at the same distances from the top. Flow through the tank is accomplished by sloping the bottom towards the outlet. The final effluent discharges to a drainage ditch. Storm runoff from the subdivision also enters this ditch downstream from the septic tank. The drainage ditch discharges to the Mattagami River.

The tank was originally approved by the OWRC as a temporary expedient pending construction of a sewer to discharge into the Timmins Water Pollution Control Plant. The OWRC approval was given for the design of the septic tank to give a minimum of two hours settling time for sanitary flows from the subdivision. The subdivision, at that time, consisted of two streets. However, the subdivision has since expanded into four streets of two blocks each. The septic tank is presently malfunctioning because it cannot

maintain the retention period for which it was originally designed.

(b) Proposed Sewage Works

Reportedly, Pearl Avenue, presently serviced by inadequate septic tank and subsurface tile beds discharging effluent to the Town Creek, will be sewered in the near future.

(2) Refuse Disposal

The refuse disposal site is located four miles south of the Town of Timmins. It is a burn and cover type of dump. Small isolated ponds were observed at the foot of the dump. It was reported that these ponds were caused by spring runoff from a lake and that the ponds have no access to any watercourse.

(3) Industrial Waste Disposal

Doran's Northern Ontario Breweries Limited - Doran's Brewery employs approximately 42 people. A total of approximately 750,000 gallons of beer and ale and 6,500 gallons of soft drinks were produced during the year of 1964.

The brewery wastes are discharged to a catch-basin under Algonquin Street East and can be diverted either to the town's sanitary or storm sewer systems. During dry weather periods when surface runoff is minimal, the town allows the brewery waste to be discharged to the sanitary sewer for treatment at the municipal WPCP. However, in the winter and spring months and during intervals of heavy rainfall, the town diverts the industrial waste to the storm sewer system which discharges to Town Creek.

Wastes flow to the sewer at an average rate of 50 gpm. The wastes contain 100 pounds of yeast and 115 pounds of hops twice per week, and 50 pounds of grain with every false bottom wash.

Sanitary wastes from the brewery are directed to the municipal sanitary sewer system.

Timmins Packers Limited - This industry employs about 35 people and is involved in the custom and market slaughtering of animals and the processing of some by-products. The reported volume of market and custom slaughtering from March 1, 1964 to February 28, 1965 was 10,856 animals. This represents approximately 3,003,385 pounds of slaughtered products including beef, veal, hogs, and sheep.

Liquid wastes including blood, wash water, cooking water, sanitary wastes, and occasionally brine wastes are directed to two septic tanks (capacity 10,000 gallons). The effluent from the septic tanks is discharged to a low marshy area, approximately 2.3 acres in size, located some 400 feet south of the plant. This marshy area discharges through an adjacent gravel pit to a creek flowing to the Mountjoy River which is about 0.5 miles from the plant.

The practice of discharging inadequately treated wastes from the meat plant will be discontinued. Timmins Packers Limited is negotiating with the Corporation of the Town of Timmins for a sewer service to the plant.

Hollinger Consolidated Gold Mines Limited - The Hollinger Mines employs approximately 1,200 people. It is estimated that 3,000

tons of ore are mined per day.

Sanitary wastes from the following mine areas are discharged to individual septic tanks: one residence; No. 11 shaft and hoist house; steel shop; No. 19 hoist house; refinery; boiler room and main office. The septic tank effluents are collected and discharged via three separate woodstave sewer lines to an open ditch which travels east, parallel to Highway No. 101 and enters Pearl Lake.

Sewage from the following areas is discharged to individual septic tanks: No. 26 shaft hoist house; No. 26 crusher house; grinding plant; mill; and main shaft hoist house. The septic tank effluents are discharged to Gillies Lake via two outfalls.

Domestic wastes from the shops and employment office are discharged to individual septic tanks and underdrained filter beds. The final effluent enters Gillies Lake. Sanitary wastes from the compressor house are directed to a septic tank which discharges to Gillies Lake. Domestic sewage from No. 19 shaft enters a septic tank which is connected to the Schumacher sewer system.

(4) Discussion of Sample Analyses

The laboratory results of the bacteriological examinations and chemical analyses of samples collected by the Porcupine Health Unit and by the OWRC are appended to this report. Descriptions of the tests are also included.

Bacteriological and chemical samples, collected from the Mattagami River and the Mountjoy River, were found to be within the

OWRC objectives.

Samples, collected by the Porcupine Health Unit from the drainage ditch receiving septic tank effluent from the Melrose Heights Subdivision, revealed high E.coli counts indicative of fecal pollution. A sample of the discharge from the septic tank revealed a 5-Day BOD and suspended solids concentration of 124 and 138 ppm, respectively. These concentrations were in excess of the Commission's objectives of not greater than 15 ppm for both parameters.

Bacteriological examinations of water samples, collected from Town Creek, revealed total coliform counts in excess of the OWRC objective of not greater than 2,400 organisms per 100 c.c. The high coliform counts are indicative of fecal pollution. Three outfalls from the municipal storm sewer system to Town Creek were found to be discharging raw sanitary wastes to the creek during a heavy rainfall. They are as follows: MTC-0.15 RS, MTC-0.61 RS, and MTC-0.76 WS.

A sample, MTC-0.54 D, collected from the drainage ditch located at the Powerline, revealed a 5-Day BOD and total coliform count in excess of the Commission's maximum objectives for surface waters.

A sample, MTC-0.60 D-2, collected from the tributary of Town Creek west of Waterloo Road showed that the 5-Day BOD of 140 ppm was in excess of the OWRC maximum objective of 4.0 ppm.

The total coliform count of 75,000 coliform organisms per 100 c.c. was also in excess of the Commission's maximum objective. The high concentrations were probably caused by the presence of brewery wastes in the water.

A sample, taken from an open ditch discharging to Town Creek in an easterly direction, north of Hillside Avenue, proved to have a total coliform count and a 5-Day BOD in excess of the OWRC maximum objective.

A sample, collected from the outfall (MTC-0.79 P) north of Pearl Avenue, revealed a 5-Day BOD and suspended solids concentration in excess of the OWRC objectives.

The introduction of raw sanitary wastes to Town Creek and its tributaries is deteriorating the water quality of the creek. The Town of Timmins should implement an extensive programme to locate and eliminate all discharges of a polluting nature to Town Creek.

A sample, collected from the outfall (GL-0.25 I-2) which discharges to Gillies Lake from the Hollinger Mines compressor building, revealed a 5-Day BOD and suspended solids concentration exceeding the Commission's objectives. Chemical analyses showed the effluent to contain a paraffinic lubricating oil. The discharge of this polluting waste should be eliminated as these pollutants make the water unsightly and unfit for bathing.

IV SUMMARY AND CONCLUSIONS

A municipal water pollution survey was made of the Town of Timmins during the summer of 1965.

Water for the Town of Timmins is supplied by the Hollinger Gold Mines water works. The town is serviced by a system of separate sewers in which sanitary wastes are directed to the Timmins Water Pollution Control Plant.

The municipal refuse disposal site was satisfactory from a water pollution point of view at the time of the inspection.

As a result of surveys of Town Creek conducted by the Porcupine Health Unit and the Ontario Water Resources Commission, it was found that sanitary wastes were gaining access to Town Creek via the municipal sewer system and private outfalls. In addition, brewery wastes are directed to Town Creek during periods of heavy rainfall.

The septic tank now serving the Melrose Heights Subdivision is inadequate and this situation should be corrected prior to further development in the subdivision.

The discharge of polluting wastes to a watercourse is a contravention of the Ontario Water Resources Commission Act and action should be taken by the Town of Timmins to eliminate the discharging of contaminating wastes to local watercourses.

V RECOMMENDATIONS

1. The Town of Timmins should locate and eliminate all sources of polluting wastes presently reaching the municipal storm

sewers.

2. The discharge of sanitary wastes from private outfalls to Town Creek should be terminated.

3. The programme of expediting the sewer connections of private premises to the municipal sanitary sewer system should be continued.

4. The Town of Timmins should correct the method of waste disposal utilized by the Melrose Heights Subdivision.

5. Hollinger Consolidated Gold Mines Limited should eliminate the discharge of lubricating oil to Gillies Lake.

/elb

Approved by

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APPENDIX

THE SIGNIFICANCE OF LABORATORY RESULTS

The OWRC objectives for surface waters in Ontario are as follows:

5-Day BOD - not greater than 4 ppm
Total Coliform Count - not greater than 2,400 coliforms per 100 ml
Phenolic Equivalents - average - not greater than 2 ppb
- maximum - not greater than 5 ppb
pH Range - 6.7 to 8.5.

A few pertinent maximum limits of contaminants in storm sewers, sewage treatment plant and industrial waste effluents are listed below. Adequate protection for surface waters, except in certain specific instances influenced by local conditions, should be provided if the following concentrations and pH range are not exceeded.

Item	Concentration
5-Day BOD	not greater than 15 ppm
Suspended Solids	not greater than 15 ppm
Phenol	not greater than 20 ppb
pH	5.5 to 10.6
Iron	not greater than 15 ppm
Ether Solubles (oil)	not greater than 15 ppm

GLOSSARY OF TERMS

Bacteriological Examinations - The Most Probable Number technique is used by the Ontario Department of Health to obtain an approximation of the actual number of coliform organisms present. The Membrane

Filter technique is used by the OWRC to obtain a direct enumeration of coliform organisms. These organisms are the normal inhabitants of the intestines of man and other warm-blooded animals. They are always present in large numbers in sewage and are, in general, relatively few in number in other stream pollutants.

Biochemical Oxygen Demand (BOD) - The biochemical oxygen demand test indicates the amount of oxygen required for stabilization of the decomposible organic matter found in sewage, sewage effluent, polluted waters, or industrial wastes, by aerobic biochemical action. The time and temperature used are five (5) days and 20°C, respectively.

Solids - The analyses for solids include tests for total, suspended, and dissolved solids. Total solids is a measure of the solids in solution and in suspension. Suspended solids indicate the measure of undissolved solids of organic or inorganic nature whereas the dissolved solids are a measure of those solids in solution.

Oils and Ether Soluble Materials - These include oils and all other ether soluble materials such as tarry substances and greases. The presence of these pollutants renders water difficult and sometimes impractical to treat, either for industrial or domestic use. Oils make the stream unsightly and the water unfit for bathing.

TABLE I

TOWN OF TIMMINS

MELROSE HEIGHTS SUBDIVISION - DRAINAGE DITCH

SAMPLED BY PORCUPINE HEALTH UNIT

August 6, 1965

Sampling Point No.	Location	MPN* E.coli per 100 c.c.
MR-0.00	Drainage Ditch at Mattagami River.	24,000,000
MR-0.02	Drainage Ditch	240,000
MR-0.04	Drainage Ditch	2,400,000
MR-0.05	Drainage Ditch	240,000
MR-0.08	Drainage Ditch	2,400,000
MR-0.12	Drainage Ditch	24,000,000
MR-0.17	Drainage Ditch	24,000,000
MR-0.21	Drainage Ditch	24,000
MR-0.25	Drainage Ditch	24,000,000
MR-0.28	Drainage Ditch	24,000,000
MR-0.38	Drainage Ditch	24,000,000
MR-0.51	Drainage Ditch	2,400,000
MR-0.55	Drainage Ditch Up-stream from Septic Tank	93,000
MR-0.59	Drainage Ditch Up-stream from Septic Tank	24,000

* Bacteriological examination performed by Ontario Department of Health Regional Laboratory, Timmins, Ontario.

TABLE 2

TOWN OF TIMMINS

TOWN CREEK

SAMPLED BY PORCUPINE HEALTH UNIT

Sampling Point No.	Location	July 24, 1964 E.coli per 100 c.c*	July 29, 1964 E.coli per 100 c.c*
MTC-0.07	Town Creek at Commerical Ave.	4,600,000	4,600,000
MTC-0.17	Town Creek at Main St.	24,000,000	24,000,000
MTC-0.27	Town Creek at Wilson Ave.	2,400,000	11,000,000
MTC-0.39	Town Creek at Algonquin Blvd.	4,600,000	4,600,000
MTC-0.46	Town Creek at Cameron St.	930,000	11,000,000
MTC-0.54	Town Creek at Powerline (1)	24,000,000	11,000,000
MTC-0.56	Town Creek at Powerline (2)	2,400,000	24,000,000
MTC-0.60 D-1	Drainage Ditch at Rae St.	24,000,000	4,600,000
MTC-0.60 D-2	Drainage Ditch at Waterloo Rd.(1)	24,000,000	24,000,000
MTC-0.60 D-3	Drainage Ditch at Waterloo Rd.(2)	24,000,000	24,000,000
MTC-0.64	Town Creek at McLeod Ave.	4,600,000	2,400,000
MTC-0.68	Town Creek at Vimy Ave.	390,000	2,400,000

* Bacteriological examination performed by Ontario Department of Health Regional Laboratory, Timmins, Ontario.

TABLE 3

TOWN OF TIMMINS

TOWN CREEK

SAMPLED BY THE ONTARIO WATER RESOURCES COMMISSION

July 9, 1965

Sampling Point No.	Location	MPN* Total Coliform Organisms per 100 c.c.	E.coli per 100 c.c.
MTC-0.07	Town Creek at Commercial Ave.	2,400,000	2,400,000
MTC-0.17	Town Creek at Main St.	2,400,000	2,400,000
MTC-0.27	Town Creek at Wilson Ave.	75,000	75,000
MTC-0.39	Town Creek at Algonquin Blvd.	11,000,000	11,000,000
MTC-0.46	Town Creek at Cameron St.	2,400,000	2,400,000
MTC-0.54	Town Creek at Powerline (1)	21,000,000	460,000
MTC-0.56	Town Creek at Powerline (2)	1,500,000	46,000
MTC-0.60 D-1	Drainage Ditch at Rae St.	110,000	46,000
MTC-0.60 D-2	Drainage Ditch at Waterloo Rd.(1)	75,000	46,000
MTC-0.60 D-3	Drainage Ditch at Waterloo Rd.(2)	4,600	4,600
MTC-0.64	Town Creek at McLeod St.	460,000	460,000
MTC-0.68	Town Creek at Vimy St.	75,000	24,000

TABLE 3 (CONT'D)

Sampling Point No.	Location	MPN* Total Coliform Organisms per 100 c.c.	E.coli per 100 c.c.
MTC-0.76	Town Creek at Pearl Ave.	150,000	46,000
MTC-0.84	Town Creek at Hillside Ave.	75,000	11,000
MTC-0.89	Town Creek at Lincoln Ave.	110,000	2,400
MTC-0.96	Town Creek at Carlin Ave.	110,000	4,600
MTC-1.09	Town Creek at Queen and Waterloo Sts.	110,000	2,400
MTC-1.24	Town Creek at MacLean Dr.	460	23
MTC-1.40	Town Creek at Jubilee Ave.	93	93
MTC-1.64	Town Creek at Pine St.	2,400	24
MTC-1.90	Town Creek at Tamarack St.	93	0
MTC-2.08	Town Creek at Hart St.	4,600	1,100

* Bacteriological examination performed by Ontario Department of Health Regional Laboratory, Timmins, Ontario.

TABLE 4

TOWN OF TIMMINS

TOWN CREEK

SAMPLED BY PORCUPINE HEALTH UNIT

May 3, 1965

Sampling Point No.	Location	MPN* Total Coliform Organisms per 100 c.c.	E.coli per 100 c.c.
MTC-0.07	Town Creek at Commercial Ave.	430,000	230,000
MTC-0.17	Town Creek at Main St.	460,000	460,000
MTC-0.27	Town Creek at Wilson Ave.	43,000	23,000
MTC-0.39	Town Creek at Algonquin Blvd.	150,000	24,000
MTC-0.46	Town Creek at Cameron St.	430,000	230,000
MTC-0.54	Town Creek at Powerline (1)	430,000	240,000
MTC-0.56	Town Creek at Powerline (2)	2,100,000	24,000
MTC-0.60 D-1	Drainage Ditch at Rae St.	430,000	23,000
MTC-0.60 D-2	Drainage Ditch at Waterloo Rd. (1)	43,000	23,000
MTC-0.60 D-3	Drainage Ditch at Waterloo Rd. (2)	93,000	23,000
MTC-0.64	Town Creek at McLeod St.	2,100	230
MTC-0.68	Town Creek at Vimy Ave.	4,600	2,400

TABLE 4 (CONT'D)

Sampling Point No.	Location	MPN* Total Coliform Organisms per 100 c.c.	E.coli per 100 c.c.
MTC-0.76	Town Creek at Pearl Ave.	2,400	0
MTC-0.84	Town Creek at Hillside Ave.	2,300	23
MTC-0.89	Town Creek at Lincoln Ave.	4,300	0
MTC-0.96	Town Creek at Carlin Ave.	7,500	0
MTC-1.09	Town Creek at Queen and Waterloo Sts.	9,300	0
MTC-1.24	Town Creek at MacLean Dr.	930	23
MTC-1.40	Town Creek at Jubilee Ave.	1,500	0
MTC-1.64	Town Creek at Pine St.	1,500	0
MTC-1.90	Town Creek at Tamarack St.	1,500	0
MTC-2.08	Town Creek at Hart St.	4,300	230
MTC-2.67	Town Creek at Sands Claims Rd.	3,600	0

* Bacteriological examination performed by Ontario Department of Health Regional Laboratory, Timmins, Ontario.

TOWN OF TIMMINS

TABLE 5-1

OUTFALLS TO TOWN CREEK

SAMPLING POINT No.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS TOTAL (PPM)	SOLIDS SUSP. (PPM)	SOLIDS DISS. (PPM)	M.F. COLIFORM COUNT/100 ML	MPN E.COLI PER 100 c.c.	REMARKS
MTC-0.04 W	2-INCH DIAMETER IRON PIPE LOCATED UNDER CULVERT.	JULY 10/65					20		
MTC-0.09 PS	6-INCH DIAMETER IRON SANITARY SEWER.	JULY 10/65	INSUFFICIENT FLOW						
MTC-0.11 P	4-INCH DIAMETER TILE SANITARY SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.15 RS	RELIEF FROM MANHOLE - NORTH SIDE OF MAIN AVENUE.	JULY 9/65	118	462	98	364	24,000,000*	24,000,000*	SANITARY SEWAGE
MTC-0.17 W	12-INCH DIAMETER CORRUGATED STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.19 W-1	12-INCH DIAMETER IRON STORM SEWER NORTHEAST OF FOGG STREET.	JULY 10/65	NO FLOW NOTED						
MRC-0.19 W-2	12-INCH DIAMETER CONCRETE STORM SEWER SOUTHEAST OF FOGG STREET.	JULY 10/65	NO FLOW NOTED						
MTC-0.26 W	12-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.27 W	24-INCH DIAMETER CORRUGATED STORM SEWER.	JULY 10/65	1.6	340	3	337	1,600		OIL SLICK

TABLE 5-2

SAMPLING POINT NO.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS TOTAL (PPM)	SOLIDS SUSP. (PPM)	SOLIDS DISS. (PPM)	M.F. COLIFORM COUNT/100 ML	MPN E.COLI PER 100 C.C.	REMARKS
MTC-0.31 W	18-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	SAMPLE NOT TAKEN						
MTC-0.39 W-1	14-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	INSUFFICIENT FLOW						
MTC-0.39 W-2	8-INCH DIAMETER CONCRETE STORM SEWER UNDER CULVERT.	JULY 10/65	NO FLOW NOTED						
MTC-0.42 W	10-INCH DIAMETER CORRUGATED STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.43 W	14-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.44 W	14-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	1.4	496	4	492	72		
MTC-0.46 W	12-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.46 D	OPEN DITCH FROM MINERAL WELL.	JULY 10/65	0.1	390	3	387	100		
MTC-0.50 P	1-INCH DIAMETER STEEL PIPE	JULY 10/65	0.1	390	3	387	0		
MTC-0.52 P	2-INCH DIAMETER STEEL PIPE.	JULY 10/65	NO FLOW NOTED						
MTC-0.54 D	DRAINAGE DITCH AT POWERLINE.	JULY 10/65	11	514	114	400	13,000		

TABLE 5-3

Sampling Point No.	Description	Date	5-Day BOD (ppm)	Solids Total (ppm)	Solids Susp. (ppm)	Solids Diss. (ppm)	M.F. Coliform Count/100 ml	MPN E.coli Per 100 c.c.	Remarks
MTC-0.60 D	Tributary of Town Creek at confluence with Town Creek.	July 10/65	3.0	544	18	526	67,000		
MTC-0.60 D-2	Tributary of Town Creek at Waterloo Rd.(1).	July 9/65	140	378	177	201	75,000	46,000	
MTC-0.61 RS	10-inch storm relief sewer.	July 10/65	No Flow Noted						
MTC-0.66 P-1	Discharge from house to open ditch along Vimy Street.	July 10/65	0.6	156	20	136	4		
MTC-0.66 P-2	Discharge from house to open ditch along Vimy Street.	July 10/65	0.1	302	4	298	0		
MTC-0.66 D	Open ditch at Vimy Street.	July 10/65	0.5	292	12	280	172		
MTC-0.68 W	18-inch diameter concrete storm sewer.	July 10/65	10	390	91	299	2,800		
MTC-0.76 WS	18-inch diameter concrete storm sewer.	July 9/65 July 10/65	24 No Flow Noted	454	64	390	24,000,000*	11,000,000*	
MTC-0.79 P	4-inch diameter steel sanitary sewer.	July 10/65	205	1548	836	712	40,000		

TABLE 5-4

SAMPLING POINT NO.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS TOTAL (PPM)	SOLIDS SUSP. (PPM)	SOLIDS DISS. (PPM)	M.F. COLIFORM COUNT/100 ML	MPN E.COLI PER 100 C.C.	REMARKS
MTC-0.81 W-1	10-INCH DIAMETER IRON STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.81 W-2	10-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	2.6	460	2	458	24		
MTC-0.84 D	OPEN DITCH NORTH SIDE OF HILLSIDE AVE.	JULY 9/65	6.0	1438	860	578	46,000	2,400	
MTC-0.84 W	10-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.86 W	10-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.87 W	18-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	0.6	602	3	599	3,700		
MTC-0.89 W	10-INCH DIAMETER IRON STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-0.99 W	18-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-1.02 P	8-INCH SQUARE TILE SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-1.07 W	24-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	INSUFFICIENT FLOW						
MTC-1.07 D	OPEN DITCH SOUTH OF TOWN CREEK.	JULY 10/65	2.2	552	4	548	140		
MTC-1.09 D	OPEN DITCH NORTH OF TOWN CREEK.	JULY 10/65	NO FLOW NOTED						

TABLE 5-5

SAMPLING POINT No.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS TOTAL (PPM)	SOLIDS SUSP. (PPM)	SOLIDS DISS. (PPM)	M.F. COLIFORM COUNT/100 ML	MPN E.COLI PER 100 C.C.	REMARKS
MTC-1.21 W	12-INCH DIAMETER CORRUGATED STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-1.25 W	12-INCH DIAMETER CORRUGATED STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-1.52 W	12-INCH DIAMETER CORRUGATED STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-1.64 W	12-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	1.0	548	2	546	3		
MTC-1.66 W	12-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-1.67 W	8-INCH DIAMETER CORRUGATED STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-1.69 W	8-INCH DIAMETER CORRUGATED STORM SEWER.	JULY 10/65	NO FLOW NOTED						
MTC-2.04 W	24-INCH DIAMETER CONCRETE STORM SEWER.	JULY 10/65	0.2	356	3	353	84		

* TESTS PERFORMED AT THE ONTARIO DEPARTMENT OF HEALTH REGIONAL LABORATORY, TIMMINS, ONTARIO. BACTERIOLOGICAL EXAMINATIONS ARE RECORDED AS M.P.N. TOTAL COLIFORM ORGANISMS PER 100 C.C. AND M.P.N. E.COLI PER 100 C.C.

TOWN OF TIMMINS

TABLE 6

MATTAGAMI RIVER

SAMPLING POINT No.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS TOTAL (PPM)	SOLIDS SUSP. (PPM)	SOLIDS DISS. (PPM)	M.F. COLIFORM COUNT/100 ML	MPN E.COLI PER 100 C.C.
MT-192.0	MATTAGAMI RIVER DOWN-STREAM FROM TIMMINS WPCP.	OCT.20/65	5.0	76	2	74	460*	0*
MT-192.1 T	TIMMINS (OWRC) WATER POLLUTION CONTROL PLANT OUTFALL.	OCT.20/65	NOT SAMPLED					
MT-192.6	MATTAGAMI RIVER UP-STREAM FROM TIMMINS WPCP.	JULY 10/65	0.5	160	6	154	66	
MT-193.5(1)	MATTAGAMI RIVER - PUBLIC BEACH.	DEC. 5/65	1.4	94	1	93	230*	0*
MT-193.5(2)	MATTAGAMI RIVER - PUBLIC BEACH.	JULY 10/65					106	
MT-193.5(3)	MATTAGAMI RIVER - PUBLIC BEACH.	DEC. 5/65	0.6	116	1	115	230*	23*
MT-194.0	MATTAGAMI RIVER UP-STREAM FROM TIMMINS.	JULY 10/65	0.4	130	6	124	28	
MTJ-0.0	MOUNTJOY RIVER AT CONFLUENCE WITH MATTAGAMI RIVER.	JULY 10/65	0.7	248	13	235	250	
MTJ-0.9	MOUNTJOY RIVER AT WENDE AVE. BRIDGE.	JULY 10/65	0.6	174	7	167	200	

* TESTS PERFORMED AT THE ONTARIO DEPARTMENT OF HEALTH REGIONAL LABORATORY, TIMMINS, ONTARIO. BACTERIOLOGICAL EXAMINATIONS ARE RECORDED AS M.P.N. TOTAL COLIFORM ORGANISMS PER 100 C.C. AND M.P.N. E.COLI PER 100 C.C.

TOWN OF TIMMINS

TABLE 7

GILLIES LAKE

SAMPLING POINT No.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS TOTAL (PPM)	SOLIDS SUSP. (PPM)	SOLIDS DISS. (PPM)	ETHER SOLUBLES (PPM)	TOTAL COLIFORM COUNT/100 c.c. MPN*	E.COLI PER 100 c.c.	REMARKS
GL-0.25	GILLIES LAKE - KINSMEN PARK BEACH.	OCT.20/65	1.0	506	2	438		7.3	0	
GL-0.25 I-1	HOLLINGER COMPRESSOR 4-INCH SQUARE WOODEN OUTLET.	OCT.19/65	66	556	110	446	62.7	460	0	PARAFFINIC LUBRICATING OIL.
GL-0.25 I-2	HOLLINGER COMPRESSOR CODING WATER - 18- INCH DIAMETER TIN.	OCT.19/65	0.8	522	3	519		9.1	0	
GL-0.31 I	HOLLINGER COMPRESSOR COOLING WATER - 2- 12 INCH DIAMETER WOODEN STAVE.	OCT.19/65	1.5	482	2	480		3.6	0	
GL-0.38 D	DRAINAGE DITCH - NORTH SIDE OF ONR.	OCT.20/65	1.8	174	5	169		150,000	24,000	
GL-0.38 T	HOLLINGER EMPLOYMENT OFFICE AND MAIN SHOP - SEPTIC TANK EFFLUENT.	OCT.19/65	12	92	30	62		24,000,000	2,400,000	

* BACTERIOLOGICAL EXAMINATIONS PERFORMED AT THE ONTARIO DEPARTMENT OF HEALTH REGIONAL LABORATORY, TIMMINS, ONTARIO.

TOWN OF TIMMINS

TABLE 8

MELROSE HEIGHTS SUBDIVISION

SAMPLING POINT No.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS TOTAL (PPM)	SOLIDS SUSP. (PPM)	SOLIDS DISS. (PPM)	M.F. COLIFORM COUNT/100 ML
MR-0.51 T	MELROSE HEIGHTS SUBD. SEPTIC TANK EFFLUENT.	JULY 10/65	124	540	138	402	15,000,000

LEGEND

MTJ-09 – STREAM SAMPLING POINT SHOWING MILEAGE

MTC-1-09 D – OUTFALL SHOWING STREAM AND MILEAGE

TYPE OF OUTFALL

D – DRAINAGE OR DITCH

P – PRIVATE SEWER

R – RELIEF SEWER FROM A PUMPING STATION

T – TREATMENT PLANT EFFLUENT

W – STORM SEWER

I – INDUSTRIAL OUTFALL

S – SANITARY SEWER

ONTARIO WATER RESOURCES COMMISSION

TOWN OF TIMMINS

WATER POLLUTION SURVEY 1965

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